

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully request.

Claims 1-3, 8, 9, and 11-13 are presently active in this case. Claims 8, 9, and 11 have been amended and claims 12 and 13 have been added by way of the present amendment.

In the outstanding office action, claim 8, 9, and 11 were rejected under 35 USC 112, second paragraph, for being indefinite; claims 8, 9, and 11 were rejected under 35 USC 102(b) as being anticipated by U.S. patent number 5,402,791 to Saitoh et al.; claims 1 and 2 were rejected under 35 USC 103(a) as being unpatentable over Saitoh et al. in view of U.S. patent number 6,323,061 to Sakazaki et al.

Claim 3 was objected to as being dependent upon a rejected base claim, but was indicated as being allowable if rewritten in independent form. Applicants acknowledge with the appreciation indication of allowable subject matter. However, applicants believe that they are entitled to the scope of protection provided by claims 1 and 2. Consequently, claim 3 has been maintained in dependant form.

In response to the rejection of claims 8, 9, and 11 under 35 USC 112, second paragraph, Applicants have amended the limitation “an array direction” in claims 8, 9 and 11 to read --longitudinal direction of the ultrasonic probe--. Applicants respectfully submit that claims 8, 9, and 11 are therefore definite. No new matter has been added.

Regarding claims 8 and 11, the official action asserts that Saitoh et al. disclose “a flexible printed wiring board 9 having a plurality of pattern wires” Applicants respectfully traverse. That is, Applicants submit that Saitoh et al. fail to disclose a first flexible printed wiring board arranged between first electrodes and a backing member, including a plurality of first pattern wires each having a width smaller than a width of each of the piezoelectric members in an longitudinal direction of the ultrasonic probe, extending in a longitudinal

direction of each of the piezoelectric members and connected to the first electrode along the longitudinal direction of each of the piezoelectric members, and connecting the plurality of first pattern wires to an ultrasonic diagnosis apparatus body.

Rather, the ultrasonic probe disclosed in Saitoh et al. has a flexible printed wiring board 9 connected to respective sides of electrodes 5 of piezoelectric elements 1 (see FIG. 1). Saitoh et al. do not teach or suggest a flexible printed wiring board provided between a vibration element and a backing member, as defined by claims 8 and 11 of the present invention.

Further, the flexible printed wiring board 9 disclosed in Saitoh et al. is connected to one end of each electrode 5 (see FIG. 1), and does not have “a plurality of first pattern wires each having a width smaller than a width of each of the piezoelectric member in a longitudinal direction of the ultrasonic probe, extending in a longitudinal direction of each of the piezoelectric members and connected to the first electrode along the longitudinal direction of each of the piezoelectric members” as defined by claims 8 and 11.

Because of the above described differences in structure, the inventions defined by claims 8 and 11 have advantageous effects which do not reside in the ultrasonic probe disclosed by Saitoh et al. Specifically, claims 8 and 11 define a flexible printed wiring board provided between a vibration element and a backing member. The flexible printed wiring board protects the vibration element. The protection effect is particularly remarkable when cutting the vibration element. As a result, it is possible to easily manufacture an ultrasonic probe of high reliability as compared with the prior art. Further, the inventions defined by claims 8 and 11 define “a plurality of pattern wires” as described above, and *thereby enable improvement in processing accuracy (yield), without cutting the pattern wires of the flexible printed wiring board.*

Furthermore, as is clear from FIGS. 3A and 3B, the ultrasonic probe disclosed in Saitoh et al. has a vibration element which is formed by cutting electrodes 12 provided on the top and bottom surfaces of rectangular single-crystal piece 11. Applicants submit that this structure has similar defects as the prior art identified in the present application (see page 3, line 26 to page 7, line 8 of the specification).

In view of the foregoing, Applicants respectfully submit that Saitoh et al do not anticipate or render obvious the subject matter defined by claims 8 and 11.

Regarding the rejection of claims 1 and 2 under 35 USC 103(a), Applicants point out that the secondary reference, Sakazaki et al., disclose an electrode formed of conductive resin (column 3, lines 15-18, FIG. 1(a), etc.). However, Applicant submit that the technique disclosed in Sakazaki et al. is non-analogous to ultrasonic probes. In particular, Sakazaki et al. neither disclose nor suggest the relationship between a vibration element and an electrode regarding acoustic impedance. Therefore, there is no motivation to combine the teachings of Sakazaki et al. with Saitoh et al. and the rejection under 35 USC 103(a) is traversed.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. An early and favorable action is therefore respectfully requested.

Respectfully submitted,

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